

and apex 22 to avoid friction between turntable 18 and the walls, and to allow for a possible slight misplacement of gerotor guide 3 or a corner slightly off from 90[□]°. Indeed, the turntable need not be used in a corner at all, but it will still describe a square area.

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Referring now to **Figure 2**, gerotor 11 is shown in a position different from that of **Figure 1**. Unlike **Figure 1**, gerotor 11 contacts profile 10 at three points S, and one of the lobes 12 of gerotor 11 is entirely within one of the recesses 13 of gerotor guide 3. It will be observed, however, that except for the position of 10 **Figure 2**, the gerotor 11 will always be in contact with profile 10 at four points as described with reference to **Figure 1**, which assures that the gerotor 11 cannot “float” outside of its prescribed path and will not become bound, anywhere while its center B revolves around center A of the gerotor guide 3. As described in my US patent 5,152,592, the distance between A and B will remain at 0.0773 of the 15 width of the (Reuleaux triangle) turntable 18, or one-eighth of the diameter of the large circle X.

In **Figure 2** also is a flange 24 the purpose of which is to prevent gerotor 11 from any significant upward movement if an apex 22 of the Reuleaux triangle shaped 20 turntable is subject to a downward force, when it is projecting or approaching the projecting position from a cabinet as in **Figure 1**. It is preferred that, if the gerotor guide 3 is placed on the floor of a cabinet or in a shelf of a cabinet, so that the apexes of the turntable will project from the cabinet (see the 45° cabinet face 21 outlined in **Figure 1**), the gerotor guide 3 will be a part of, or anchored to, the 25 cabinet floor or a shelf therein so that it will not be tipped by a downward force on a projecting apex 22. When gerotor guide 3 is anchored to the cabinet floor, flange 24 will prevent the turntable from tipping if there is a downward force on projecting apex 22. If gerotor guide 3 is anchored to a shelf, the shelf is preferably one which cannot be lifted in the back without removing a bracket on 30 the back wall. To permit the gerotor 11 to pass underneath the flange 24, the gerotor 11 may be made of a thickness less than the height of profile 10, or

otherwise fabricated to permit at least the outer edge of gerotor 11 to pass beneath flange 24. See Figures 4a-4e.

While **Figure 2** shows the turntable 18 in an intermediate position between recessed and projecting, **Figure 3** shows it in the recessed or “parked” position with apex 22 180° from cabinet face 21. If the apparatus is in a cabinet, a door (not shown) could cover its 45[□] ° face 21. Here, the imaginary hypocycloid circle Y (the “gerotor circle”) has been rotated so its center B is 180[□] ° around the center point A of circle X (the “gerotor guide circle”), and it now contacts circle X at point T. Continuing the rotation of turntable 18 will cause the center B of circle Y to revolve around center A of circle X at a constant distance 1/8 of the diameter of circle X and 0.0773 times the width of turntable 18. Gerotor 11 is contained within profile 10 at four points U. If the apparatus is on a countertop or other larger surface, edges 19 and 20 of the square area and 45[□] ° face 21 will not be tangible elements – that is, the turntable 18 can simply be rotated on the larger surface, alternately being recessed and projecting.

In **Figure 4a**, gerotor 11 is shown attached to turntable 18 by spacer 25. Gerotor 11 has a substantially planar gerotor bearing on its underside, forming a bearing interface at 40 with a substantially planar gerotor guide bearing 41. Here, the gerotor guide bearing 3 is anchored to a cabinet floor 44 by screws 45. Gerotor 11 passes under flange 24 (see Figure 2); when gerotor 11 is in the projecting position of **Figure 1**, the turntable 18 cannot be tipped by a downward force on the projecting apex.

A “substantially planar” surface is not a single point as may describe the contact site of a ball bearing or ball caster, or a line as may describe the contact site of a roller bearing. Rather, a substantially planar surface as contemplated herein assumes the ordinary meaning of a planar area. Typically I will use the entire area available such as the underside of gerotor 11 or the upper surface of gerotor guide 3, but as little as 10% of the available area may be used, particularly if one